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CONSUMERS' GUIDE

FEBRUARY 1, 1941

DIETS

GARDENS

ORANGES

MILK

CONSUMERS' GUIDE

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PEANUT FARMERS, last year, poured 1½ billion pounds of peanuts into the American larder.

That's twice the amount that farmers used to provide their 2-footed and 4-footed consumers with, say 20 years ago.

One billion and a half pounds of peanuts is something to ponder over.

If all of them were kept in shells, and all divided equally among our 30 million families, we'd each have about a pound of peanuts a week—enough, perhaps, to satisfy average appetites at home on week days and at the zoo on Sundays.

Elephants may have the impression that all peanuts are sold in the shell, but of course boys and girls know better.

Only half of last year's crop went to town as nuts—to be eaten roasted, salted, or made into sweets or peanut butter.

About a third was milled into peanut oil.

The rest stayed on the farm, to be used as seed, or feed for animals, or to be eaten by farm families.

IT HAPPENS THAT THE AMOUNT OF PEANUTS which biped and quadruped consumers tuck away doesn't change much from year to year. What's left over is surplus which is usually milled into oil. When crops are very large the peanut-oil problems of farmers are very large. For peanuts that go into oil bring lower prices than peanuts for edible purposes.

Agriculture's program for peanut farmers has struck at peanut-oil problems. This is the way it works:

To Government-approved associations of peanut farmers, the Government says: "Go ahead and buy all the peanuts farmers bring you at the price which we fix. This price won't be as high as the price farmers ordinarily get for peanuts sold for eating, but it will be higher than the price the oil-makers offer. Then sell the peanuts at whatever price you can get from the manufacturers of oil. Of course you will lose money at this business. To even things up, the Government will pay you the difference between the price you pay and the price you receive."

LAST YEAR, BY THIS DIVERSION PLAN, FARMers got a better price on the 34,000 tons of peanuts moved through these associations. The higher price which the Government, through the Surplus Marketing Administration of the Department of Agriculture, maintained on this part of the crop held up the farmer's price on the rest of his crop as well. This year it is expected that about 250,000 tons of surplus peanuts will be diverted by SMA's program. Instead of having to accept an average of about $35 a ton, which is all the oil-makers are paying, farmers get the Government-fixed price, averaging about $65 a ton for every ton they sell through the associations. In the pit of the depression, before there was a peanut program, they got as little as $30 a ton.

While peanut farmers still don't make much of a living out of the land and labor they devote to peanuts, people who eat them get a great deal. Like some of the other vegetables which it resembles (soybeans, beans), it is a rich source of Vitamin B_1 and proteins, a good source of phosphorus, and a fair source of iron. In addition, the high fat content makes it a very substantial dish to tuck under one's belt.

SO FAR, THE FOOD AND DRUG ADMINISTRAtion has set no standards for commercial peanut butter. But Bureau of Plant Industry experts who test peanut butter recipes regularly have discovered many of the things that make up a jar of good butter. Only U. S. No. 1 and a small percentage of U. S. No. 2 peanuts should be used. Lower grade nuts which reach factories finely broken, mixed with shells, immature nuts, and nut germs which cannot be separated from the nut meats themselves give the butter the bitter taste you sometimes complain of.

Though peanut butter looks as if it were made by mixing peanuts with fat, the recipe is even simpler than that. First, shelled peanuts are roasted. This gives the butter its rich pungent flavor. Roasting too long, or at too high a temperature scorches the nuts and makes the butter acrid and bitter. Next, they're blanched and germs and foreign material are sifted out, for they spoil the butter's smooth flavor. Besides, germs make the butter spoil more readily.

Last step before bottling is grinding and mixing with the proper amount of salt. If nuts are crushed by dull grinding surfaces rather than cut, the butter will be gummy. This is the kind of butter that sticks to the roof of your mouth and seems impossible to swallow. On the other hand, butter too coarsely ground will seem gritty.

RULES FOR MAKING PEANUT BUTTER AT home are easy. Roast the peanuts in a slow oven (300 degrees), stirring occasionally. Then shell them, remove the skins, and grind kernels in your meat grinder, using the finest blade. You will probably want to grind them twice to get the fineness you desire. Then add the amount of salt you like and a little table oil if the butter seems too dry. Best idea is to make small quantities at a time. Peanut butter tastes better fresh, and it gets rancid fairly easily. Two cups of shelled nuts will grind into about one-half pound of butter.

Peanut butter fanciers can get lots of additional ideas for recipes using peanuts and peanut butter by writing the Office of Information, U. S. Department of Agriculture, Washington, D. C. Ask for the Bureau of Home Economics free pamphlet, MP–302, "Nuts and Ways to Use Them."

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WE MUST watch out lest conservation of our physical resources be pushed with full regard for the loss of dollars flowing off and down our streams, but no primary regard for wasted humanity. It is selfishness that has destroyed our natural resources, and to plead for conservation merely to stop the loss of dollars is to appeal to the same selfishness that wrought the destruction.

"It is only when human beings become the primary objective that conservation becomes the highest national virtue. Conservation can never become our master plan except as a nation's restitution for a great wrong done—not only to land, but to people."—HENRY A. WALLACE, *Vice President of the United States.*

THIS crude contraption is a wheelbarrow seeder for planting a field with alfalfa.

There Are Pioneers in Alabama

300 thousand farmers are going to show what rewards come with an integrated program for better farming

THIS SPRING Alabama farmers are blazing a new route to balanced production and conservation of the soil.

In orderly, planned fashion, crop control has been harnessed with soil conservation. One has been made equally important as the other, both meshed together as a single problem to be faced by the individual farmer in caring for his land.

That's the nub of the "Alabama Plan." It is a plan that may have far-reaching effects on land conservation and production planning. And the way it turns out will be as important to farmers as consumers as to farmers as producers.

Three hundred thousand Alabama farmers have been cooperating to put a voluntary check on production. But this year they have gone further. They have decided that along with crop control they will set up a 5-year plan of land conservation and soil rebuilding. Size of the cash payments they receive at the end of each year for voluntarily planting within their allotments will depend on how completely they carry out their soil-conservation program.

Crop control of necessity is short-range. It has to be planned year by year and revised with the beginning of each new planting season. If supplies are ample and prices relatively low, crops are cut down. If the situation is the reverse, then controls are eased up.

SOIL CONSERVATION, ON THE OTHER HAND, is long-range. Soil that has become thin, barren, and leached can't be rebuilt and revitalized in a season. Sometimes it is beyond help. But when it can still be contoured, terraced, strip cropped, planted with forage and other soil-holding crops, and limed or phosphated, then a plan has to be laid out and followed year to year so that the land may never again become a victim of erosion, depletion, and waste.

Up to now, except in demonstration areas of the Soil Conservation Service, and in soil conservation districts, planning for conservation of the land has been an annual proposition. The individual farmer, with funds received for crop adjustment and for meeting certain conservation practices, each year terraced a few acres, or perhaps set aside part of his land for soil-holding woodlands, or planted forage and other feed crops on a few acres.

Last year, when the 1941 agricultural conservation program was being mapped out by farmers in cooperation with the Department of Agriculture, a new idea was proposed.

That proposal went into the questionnaire which every year goes out to State and county AAA committees. Many farmers felt, said the questionnaire, that as part of the condition for receiving benefit payments, a "cropping and farm management plan for the farm as a whole that would conserve the soil and increase its productivity" should be followed.

Such a plan "would provide for needed soil-building practices, for the proper balance between the various kinds of crops grown, for the elimination of erosion hazards, for the restoration of the necessary humus to the soil, and for the adoption of other good land use practices."

When the questionnaires came back, they showed that response to the idea was favorable. So in July, at a conference of farmers, agricultural workers, and Government officials, the plan was discussed further, questioned, made to stand the test of hard-headed criticism from farmers and administrative

THIS dusty white cloud is lime that's being shoveled off a truck onto wornout fields. Before soil-conserving crops are put into the land, the soil must be revitalized with fertilizer applications, such as lime or superphosphate. One provision of the AAA program authorizes grants of lime superphosphate and other fertilizers in lieu of cash payments to participating farmers.

workers who would have to put it in operation.

Then, revamped and rid of its rough edges, it was put into the conservation program for the year. This was sent out to the States and counties. Farmers in town-meeting fashion discussed and argued it further before deciding whether they wanted to adopt it as a going program for their State.

ALABAMA FARMERS AGREED TO ADOPT THE plan. They agreed that for a period of 5 years they would conserve their land and follow soil-building practices according to a predetermined plan. If they failed to meet the requirements, then benefit payments would be cut, the excess to be turned back to administrative committees for expenses and for purchase of fertilizers and other soil-conserving materials. Specifically, there were 3 objectives to be met:

The plan had to be simple enough to be understood by farm owner and tenant alike.

Principles behind the plan should be agreed upon by all. They should be sound under all conditions. They should fit into the farm plan of all Alabama farmers.

TIME LIMIT FOR THE PLAN SHOULD EXTEND over a period long enough to make it workable. Farmers should not be made to telescope a long range program into a year or 2 when 5 or more were needed.

Starting from those beginnings, a plan was developed by the county and State committees representing 95 percent of all Alabama farmers. Today it is in its first year of operation. It is a 4-point program that shapes up like this:

First, land not planted in pasture or other cover must be terraced, provided it needs terracing, according to established standards. This helps protect the land against erosion.

Second, for every 15 acres of cropland, the farmer must have one acre of permanent pasture to feed cows and other livestock.

Third, on at least one acre for every 15 acres on the farm, a perennial soil-conserving crop must be planted. This might be kudzu, lespedeza serecia, or alfalfa. This anchors the top soil to the land, and provides hay and feed for livestock.

The final requirement—and possibly the most important—provides that every year on one-quarter of the farm, cropland must be planted to erosion-resisting or soil-conserving crops. That does several things. It preserves the soil. It forces crop rotation so that soil-depleting crops, like cotton or corn, won't be planted on the same plot year after year until the soil is no longer able to sustain a crop. And again, it provides fodder for livestock. To meet this requirement the land can be planted in legumes or grasses, in cowpeas, soybeans, or velvetbeans, in rye grass or Sudan grass, or in vetches or clover.

GETTING A BIRD'S-EYE LOOK AT A FARM using this program, then, you would see more than a quarter of it planted in field and pasture crops; you would see part of it neatly terraced with even, carefully built ridges; and on a relatively small part of the farm you would see the cash crop—cotton or tobacco.

But the gains don't stop there. There's the promise of still another gain which will show—in years to come—in the faces and bodies of the people who live on that land.

In Alabama, as in other Southern States, there are thousands of farm families who are suffering from human erosion because they have not used or could not use a part of their land to produce the food their bodies needed. For one thing, very little was done to show families used to growing cotton or tobacco how to raise vegetables or grow feed for cows. The Extension Service and the Farm Security Administration have made a beginning, but it's not easy to teach people—who for generations have grown little else but cash crops on the land—how vegetable seeds should be tilled, or how a cow should be cared for. They lack the skill, and they lack the knowledge.

So the "Alabama Plan" is filled with promise for the people as well as the soil. Those acres of land that in the next 5 years will be planted with pasturage, feed crops and hay mean that for the first time thousands of families will be able to keep a cow or other livestock to provide food for undernourished children and ailing grownups. When the land has been enriched with fertilizers and soil-conserving crops, it can be used for vegetables and fruit trees.

WHERE THE AAA PROGRAM LEAVES OFF, THE Farm Security agent and the Extension Service specialist will take over to help with loans and advice to make these farms better providers for the people who work them.

Farmers and farm officials alike are watching the Alabama try-out with keen interest. It may well be that the Nation's agriculture is on the threshold of a new approach to land conservation.

The Administrator of the AAA calls this plan a "definite step forward in our ever-increasing efforts to protect our soil for future generations. Heretofore, we have been forced to deal with the farm problem almost entirely on a year-to-year basis. But now Alabama farmers will think and work in terms of a long-time program. Greater conservation and a more permanent agriculture are sure to be the result."

A Citrus Saga

PART II

From tangemons to tangors to tangelos go the inventive experimenters in citrus fruits who have done so much to improve the quality of fruit that reaches retail counters these days *

TOPWORKING is the horticulturist's method of changing citrus trees in midstream. Citrus growers who want to shift from one variety of citrus to another cut off the tops of their citrus trees and replace them by grafting or budding new tops on the rootstock.

"A ROSE IS A ROSE is a rose," a lady once said, but an orange, no.

An orange, or a lemon, or a grapefruit, or a lime is a very ingenious object, though you would never guess it by looking.

Practically all citrus fruit, like other cultivated fruits, are stepchildren. An orange, or a lemon, or a grapefruit rarely ever grows on its parent tree. They grow on what you might call foster trees, or stepfather trees, or on what nurserymen call specially selected rootstock.

The rootstock is selected for qualities that make a good citrus parent, resistance to frost and disease.

Sometime in September or October, the nurseryman takes a sharp knife in hand, a roll of muslin that has been impregnated with grafting wax, and an armful of budwood or budwood sticks into his citrus nursery. A budwood stick is a length of a citrus tree branch from which a shield-shaped portion of bark is cut. Out in the nursery the nurseryman takes his knife and cuts 2 slits, T-shape, in a young citrus tree grown from seed. Then he inserts the budshield in the slits on the rootstock (the parent tree), and binds it up carefully with muslin.

The bud remains dormant until spring when it begins to thrust out green shoots and sprouts leaves. The nurseryman puts a stake into the ground beside the rootstock to which he ties the sprout, giving it support until it can stand on its own. In two to three years the rootstock with the budded shoots is sturdy enough to be transplanted, when it is sold to citrus fruit growers who plant it in their groves. In four to five years after the budding has taken place the tree bears fruit. Just what variety of fruit depends on the budwood; if it's Valencia orange budwood, the fruit will be Valencia oranges; If its Marsh seedless grapefruit budwood, then the fruit will be Marsh seedless grapefruit.

BUDWOOD IS CUT FROM SELECTED TREES OF known performance. By budding (as against raising citrus from seed) citrus growers make sure they will harvest what they think they are growing. Citrus fruit (and this is true of all cultivated fruit) are extremely capricious when it comes to having junior citrus fruit. Seeds from large juicy well-shaped healthy oranges sometimes grow up into trees that produce decidedly inferior oranges. And even when the fruit is not inferior, it is not likely to be uniform—that is, every tree produces fruit differing from that of every other seedling tree. Today, for the most part, the only citrus trees grown from seed are those grown for experimental purposes, or those that are grown to be used as rootstock.

Ordinary citrus growers can't afford to enter this game of genetic dice. By using budwood from well behaved trees they make sure to get the type of fruit they want, fruit that's relatively uniform in size, shape, texture, and taste, barring accidental encounters with disease or frost.

Since 1909, Department of Agriculture research workers at Riverside, California, have been patiently studying the improvement of fruit through bud selection. Buds selected because they would produce superior fruit have then been made available to growers, who in turn have budded or grafted them onto trees in their orchards which were not producing up to snuff.

The large round bright seedless California navel oranges that appear on fruit stands from November through May are uniformly of high quality because more than 3½ million tested buds have been made available to growers, enabling them to eliminate the offtype trees producing inferior fruit.

THE JUICE ORANGES WHICH ROLL MARKETward from California from May to November and which head north from Florida from October to June average high in juice and sweetness because some 5 million selected Valencia orange buds have replaced less reliable branches. Similarly, lemons and grapefruit and tangerines and limes of this generation are uniformly better than their ancestors as the result of the scientific work carried on for the improvement of citrus fruit.

Even a twig off a well known limb won't always run true to his breeding. Sometimes fruits appear that are known as sports, or mutations, an entirely new strain of orange, or grapefruit, or lemon, or lime. Most of these sports are likely to be worse, or at least no better, than the fruit from the original strain. Occasionally, however, the sport is more desirable than the original strain.

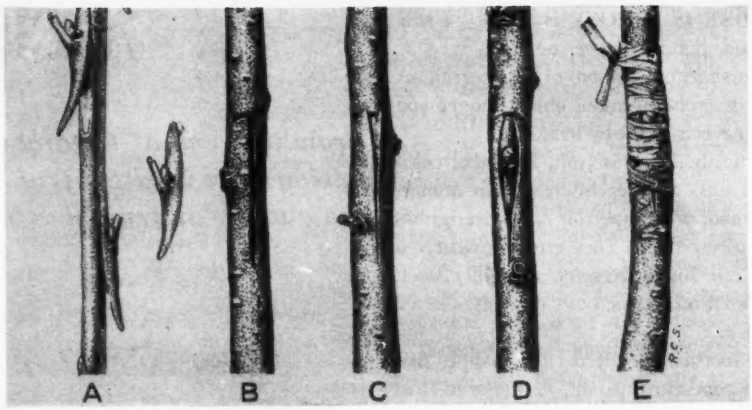
* *The first article in this series appeared in the January 16, 1941 issue of* CONSUMERS' GUIDE.

Horticulturists keep their eyes peeled for sports that offer possibilities for citrus betterment. Growers of citrus fruit have been asked to be alert for mutations in their orchards and to tie ropes around trees where they appear so they can be easily located. When a likely sport is found Department of Agriculture workers cut buds from its branches and test them out in experimental nurseries. If the sport is proved to be a worthwhile new strain, buds from it are made available to growers. In this way genetic forces are harnessed to produce superior citrus fruit, better tasting citrus fruit, better looking citrus fruit, fruit that ripens at the time of the year it's wanted, and fruit that can stand up against disease and frost.

HYBRIDIZATION IS ANOTHER METHOD SCIENtific workers in the citrus fruits (and it should be noted that most people who experiment with citrus fruits are scientific workers even though they aren't all called scientists) use to get fruit that will tempt consumers' palates.

Humorously, one research worker said he was trying to crossbreed oranges with shepherd dogs so orange growers could just go to their back doors and whistle for their fruit.

He was exaggerating, but less than you would think. Oranges, lemons, limes, grapefruit, and tangerines have been bred and crossbred to get fruit that combine the vitamin properties of one variety with the flavor of another, or the taste of one with the aroma and bouquet of another, or to get fruit that resist disease, or that have a particular shape and color, or sometimes just to see what you do get.



TREE-SURGICALLY SPEAKING, this is the operation at the bottom of the citrus fruit industry. A is the budwood, B the rootstock with T cut in it. In C the bark is laid back. D shows the bud inserted in the bark of the rootstock. The operation is complete in E and the patient is now bandaged up with raffia.

BREEDING CITRUS FRUIT TAKES A GREAT amount of patience. Pollen from one of the fruit that is to be crossbred is introduced to the stigma of the other fruit in the spring. Fruit from this marriage if it is successful takes 6 to 9 months to mature. Then seed from the fruit are planted and 3 to 4 years must elapse before the seed becomes tree and the tree bears fruit. Not until then can the research worker tell whether or not he has succeeded in getting something superior. Most of the time he doesn't. The rare success however makes up for the many failures.

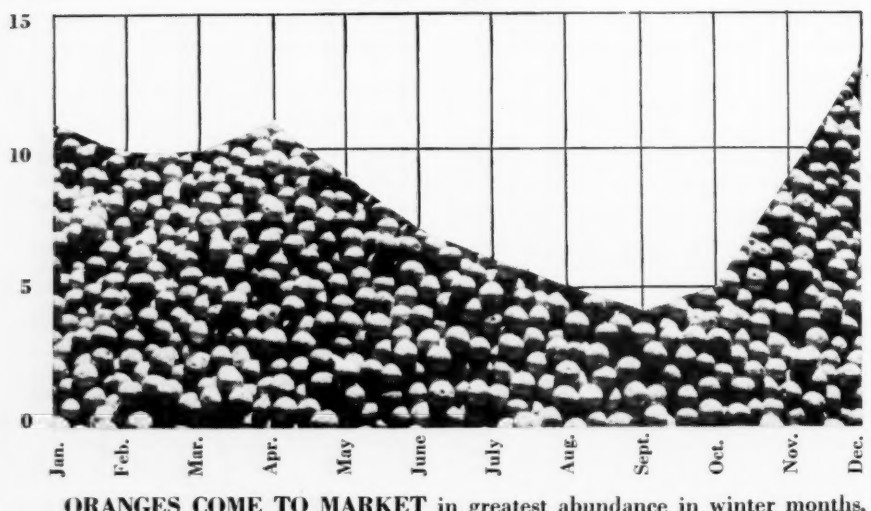
Talked about, the results sound like a word game. There is the tangemon, which is the offspring of a lemon and mandarin; the tangor, whose parents are an orange and mandarin; the tangelo, whose ancestors are grapefruit and mandarin; the orangelo, born to a family of grapefruit and orange; the oramon, from the lemon and orange; and the lemelo, from the grapefruit and lemon.

One of the most successful products of crosses have been the tangelo, a cross between a mandarin and a grapefruit. The most likely-to-succeed variety of tangelo has juice like that of a grapefruit, looks and smells like a mandarin. It's also resistant to disease and matures at a time growers prefer.

EXPLORATION, WHICH SOME PEOPLE ASSUME lives on only in history books, has an important continuing influence on citrus fruits. Expeditions from the Department of Agriculture have ransacked the hidden corners of the earth for varieties of citrus fruit which might be improvements on those already grown in the United States. Exotic citrus immigrants from Siam and Palestine and the interior of China and equally remote ends of the earth are now being tested in Department of Agriculture nurseries. The Washington navel, which is the very core of the orange groves on the West Coast, is, of course, a fruit of this searching for desirable immigrants.

In the future, consumers may some day become familiar with 3 other exotic citrus fruits which are now being groomed for a spot on American menus: the pummelo, the

Orange Supplies



ORANGES COME TO MARKET in greatest abundance in winter months, as this chart shows, and prices to consumers are lowest then. California's Valencias are usually cheapest in May; California's navel oranges are usually cheapest from January to March; Florida's oranges are usually cheapest in December and January. Each month's supplies are represented as a percentage of the total amount of oranges which come to market during an average year.

citron and the kumquat. The pummelo is a grapefruit in appearance, but with a marked difference in taste. It has large juice sacs which contain a liquid that is sweet, without either the acid or the bitter flavor of ordinary grapefruit. It's going to be cast for a role in salads, if and when consumers take to it. The citron is an ancient and honored habitue of the Mediterranean countries, in fact the earliest references to citrus in Latin, Greek, and Hebrew literature were to this leathery, orange-colored, orange-sized fruit. Citron peel, of course, is fairly familiar around Christmas time, but when the day of the citron comes, it will appear year around candied whole, rather like a preserve. The kumquat is a deep orange fruit much smaller than the lemon. It is either preserved or eaten fresh out of hand, whole. Consumers will eventually get around to it for its sweet, spicy, acid taste.

THE MAIN BUSINESS, HOWEVER, OF CITRUS growers in the United States has to do with fruits familiar to most Americans: the orange, the tangerine, the lemon, the lime, and the grapefruit.

Altogether in 1939, the United States produced $118,000,000 worth of these products, about 10 billion pounds of them. This was the value at the farm.

The orange and tangerine crop, which amounted to 76 million boxes, was valued at $84,000,000.

The lemon crop totaled some 12 million boxes and had a dollar valuation of $18,000,000.

The lime crop filled up some 95,000 boxes and brought farmers some $309,000.

Grapefruit, the second citrus fruit of America in quantity, filled up 35 million boxes and grossed some $16,000,000 to farmers.

Of every 100 oranges sold in the United States in 1939, 58 (35 Valencias, 23 navels) came from California, 1 from Arizona, 3 from Texas, 38 (20 early and mid-season varieties, 15 Valencias, 3 tangerines) from Florida, and a scattering from Louisiana, Alabama, and Mississippi.

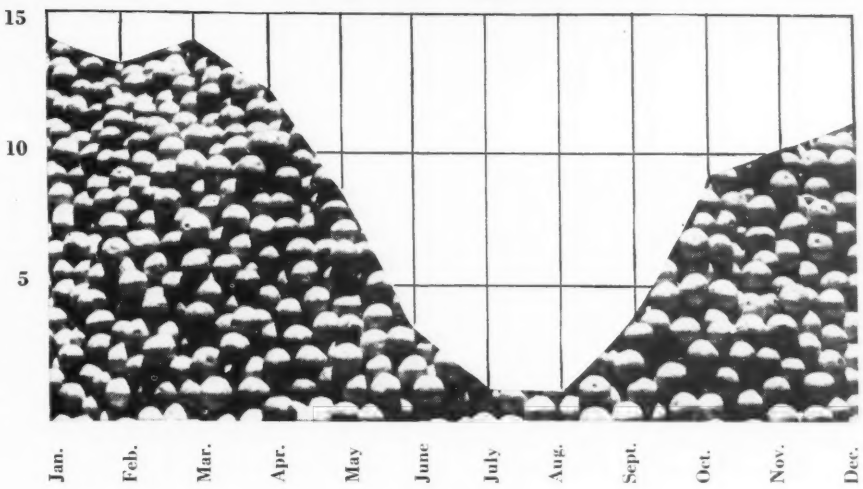
Grapefruit follows a different pattern. Of every 100 grapefruit that come to market 49 (18 seedless, 31 not) come from Florida, 38 from Texas, 8 from Arizona, and 5 from California.

Most mandarin oranges came from the Gulf States: Florida, Alabama, Louisiana, and Mississippi.

LEMONS THESE DAYS ARE ALMOST 100 PERcent Californians. It's a curious fruit, incidentally, in that the season when it's most plentiful is also the season when it's likely to be most expensive, from May to August. The reason for this is that consumers ask for them more frequently then, 3 times as many lemons are used in the summer as in the winter.

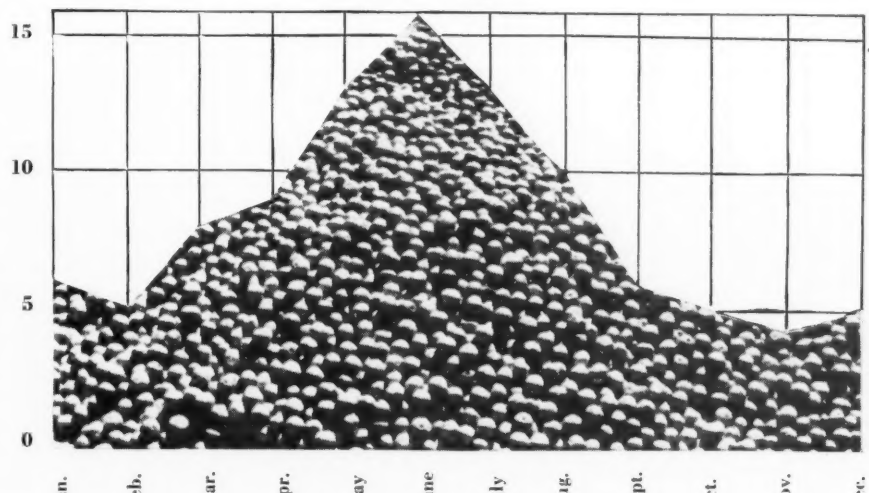
About 3 out of every 5 limes you are likely to meet in the market are strangers to these lands; they will hail from places like Mexico, the British West Indies, and Cuba. To get here, they pay a tariff of 1.5 cents a pound, except in the case of Cuba whose limes pay an 0.8 cent a pound tariff. Like lemons, but on a much smaller scale, since the United States squeezes only 1 lime for every 50 lemons, limes go up or down in price depending on the weather: hot weather–high prices, cold weather–low prices. Most American limes are harvested in the fall; most imports come in the summer, though they come to market fairly regularly the year round.

Grapefruit Supplies



GRAPEFRUIT, which comes in greatest abundance from Florida and Texas, are most plentiful in fall and winter months. Prices are usually lowest from January through March. Each month's supplies are represented as a percentage of the total amount of grapefruit which come to market during an average year.

Lemon Supplies



LEMONS turn the tables on charts like these. Greatest supplies come in summer months, but highest prices come then, too, when so many thirsty throats make big demands on supplies. Each month's supplies are represented as a percentage of the total amount of lemons which come to market during an average year.

Learn and Live

How do your notions about the foods you need stack up in common sense beside the odd and foolish ideas of other generations? A glance at the food plan recommended by the Bureau of Home Economics here may reveal that you have been making mistakes in the selection of your menus just as foolish as the fads and fancies you'll read about below

IT'S EASY to say fiddledeedee to the quaint fancies about foods that people in other centuries had, but only those who know modern facts about sound eating habits and who can and do practice them have the right—or the chance—to laugh.

"Way back when" people were trying to figure, by guess or by gamble, just what foods do to keep us going, there was a theory that got spread around considerably. It was that one mysterious magic element in food was responsible for any good health anybody had. Of course smart moderns smile at such simplicity, but it is a safe bet that every day somewhere a conversation something like this takes place:

"Why, hello, my dear friend. I'm delighted to see you. But how thin (or ailing) you look. Listen, I know just the thing for you. It's Build-u-uppo. Miraculous. Has all you need for good health. Best thing in the world when you're run down. I advise you to get it immediately. Sold at all stores."

Sounds strangely like the medieval notion that one food element fixes everything, yet millions of "moderns" are pushovers for such unscientific twaddle as that.

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Nutritionists and other scientists who know most about what bodies need and what food contributes to those needs have long since proved one thing: that all the Build-u-uppo, or what-have-you, in the world won't do the job of a well-balanced diet in keeping you healthy. It seems to take a long time for some facts to get around.

There was a time, too, when fresh foods were taboo. Even in the last century it wasn't uncommon to hear people say that fresh meat was a dangerous dish. Silly as it seems on the face of it, there was some reason for this theory. With slaughtering methods fairly crude and unsanitary, with meat inspection unknown, and ice just something to skate on, it doesn't seem far-fetched at all to conclude that meat might have reached many consumers in a none too savory state. Of course, modern inspection, refrigeration and sanitation have knocked that prejudice into the limbo.

Sad part of it was that this notion about fresh foods extended to fruits. Many people used to boycott them with the same vim that ruled fresh meat out of the diet. All kinds of epidemic diseases and fevers were once traced to the chance eating of a fresh peach. Even in 19th century New York, the sale of fresh fruit and salad greens was outlawed from time to time. Worse than the monotony of eating only cured or cooked foods was the loss of precious nutrients. Some of the richest sources of the minerals and vitamins that keep the body "toned up" and safe from certain deficiency diseases—scurvy for example—are found in green vegetables and fruits, and the wise consumer today knows the more of these you can eat in their raw state the more of these vitamins you'll get because cooking destroys some vitamins.

Other notions that foods caused specific diseases had their day. Leprosy was once supposed to come from eating bad food. Today we know it is caused by a germ.

When the tomato was introduced to England from America it was spurned, for all its rich store of scurvy-preventing Vitamin C. In spite of its healthy, red blooded appearance people thought it caused cancer.

Sugar used to be blamed for at least a dozen diseases and infirmities. Scurvy and consumption headed the list.

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As interesting as the notions held about foods that were supposed to cause diseases are those about how certain foods could cure certain diseases. Butter, for instance, was considered a laxative once upon a time. No one knows exactly why, but wise surmisers guess it got that reputation because by the time people ate it, it had usually spoiled.

THE U. S. BUREAU

Try To Include These

MILK

For a growing child, ¾ to 1 quar
For an expectant or nursing m
quart.
For other family members, 1
more.
Use fluid whole or skim milk,
milk, evaporated milk dry milk
—on the table and in cooking.
Count 1 pint of undiluted eva
milk (a little more than 1 tall
¼ pound of dry milk, or ⅓ p
cheese as having about the sa
value as 1 quart of fluid milk.

FRUITS AND VEGETABLES

Leafy, green, or yellow:

1 or more servings.

Use green leafy vegetables
spinach, kale, chard, collards,
greens, beet or turnip tops,
greens such as dandelion, lam
ters, dock, cress, purslane.
Save vitamins and minerals in a
tables by not cooking any longe
more water than necessary.
cooking water or juices. Do
soda in cooking vegetables.

**Oranges, grapefruit; tomatoes
cabbage; other raw fruits or v
bles rich in Vitamin C**

1 or more servings.

Potatoes, other vegetables, o

2 or more servings.

EGGS

1 (or at least 3 or 4 a week).
Eat eggs poached, scrambled, fr
cooked in the shell—and count t
used in custards and sauces
baking.

FATS

Count salt pork, fatback, and ba
fat—not as meat. Use butter o
vitamin-rich fat every day.

. S. BUREAU OF HOME ECONOMICS SAYS:

de These Foods In Your Meals Every Day

child, ¾ to 1 quart.
tant or nursing mother, 1

mily members, 1 pint or

ole or skim milk, butter-
ated milk dry milk, cheese
le and in cooking.
t of undiluted evaporated
more than 1 tall can), or
dry milk, or ⅓ pound of
ving about the same food
art of fluid milk.

D VEGETABLES
en, or yellow:
ervings.
leafy vegetables often—
e, chard, collards, mustard
or turnip tops, or wild
as dandelion, lambsquar-
ess, purslane.
s and minerals in all vege-
t cooking any longer or in
than necessary. Use the
er or juices. Do not use
ing vegetables.

apefruit; tomatoes; raw
er raw fruits or vegeta-
Vitamin C
ervings.

her vegetables, or fruit
servings.

st 3 or 4 a week).
oached, scrambled, fried, or
he shell—and count the eggs
istards and sauces and in

pork, fatback, and bacon as
meat. Use butter or other
n fat every day.

LEAN MEAT, POULTRY AND FISH

1 or more servings.
Choose different kinds of meats, fish, poultry for variety of food values and flavor. Occasionally, use liver, kidney, and such salt-water fish as salmon, herring, and mackerel.
In economical diets use dried beans or peas as the main dish several times a week.

CEREALS AND BREAD

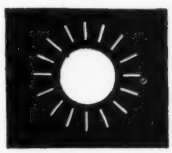
At least 2 servings of whole-grain products.
Whole-grain bread or cereals, such as dark rye or whole-wheat bread, rolled oats, cracked wheat, whole-ground corn meal are to be preferred, but if you like white flour and bread use the "enriched" kind. Count spaghetti, macaroni, noodles, grits, and white rice along with white bread and cereals—not as vegetables.

SWEETS

As needed to satisfy the appetite.
Use sweets in moderation to make the diet palatable, but not enough to spoil the appetite for other foods. Count very sweet desserts, molasses, sirups, honey, jellies, jams, sugars, and candies as sweets.

WATER

6 or more glasses.
Form a regular water-drinking habit and drink plenty of water, especially in summer. When perspiration is excessive, use an abundance of water and extra salt.



VITAMIN D

Remember that infants and growing children need fish-liver oil, direct sunshine, or some other rich source of Vitamin D.

That was before pasteurization and refrigeration were developed. Rancid butter goes through a chemical change which gives it a certain laxative quality.

Some food theories, spun around unscientific conclusions, were nevertheless good notions to get popularized. There was, for instance, the belief that the iodine contained in it gave cod liver oil its ricket preventive power. Since cod liver oil saved children from rickets, it didn't make much difference at the time whether iodine or Vitamin D (the true ricket preventive) did the trick so long as people got the idea that cod liver oil was a good addition to a child's diet.

●

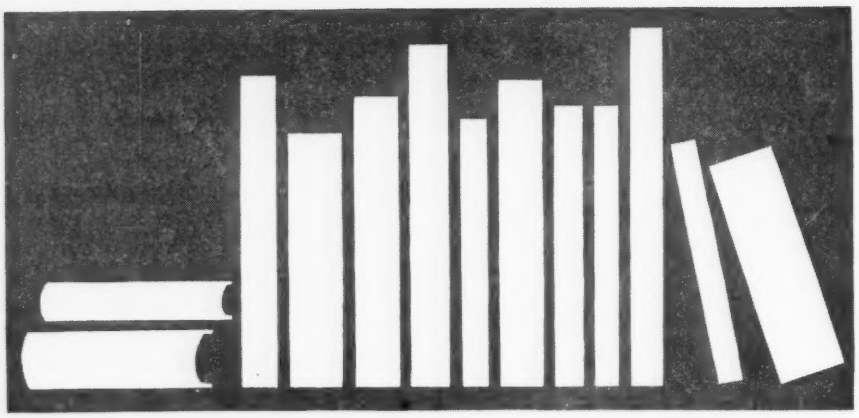
Compendium of a wonderful series of yarns about the effect of food on man was medieval Burton's *Melancholy*. In this strange conglomeration of philosophy, necromancy, and struggling science, Burton outlined a system of nutritional knowledge and practice. In general outline it was believed in by many people, even up to the 19th century.

Everything and everybody, in Burton's world, was divided into 4 categories. Each category was a "humour" (disposition). The humours of particular foods affected the humours of the people who ate them. Therefore people of certain humour had to be careful to eat foods of contrasting humour in order not to exaggerate their native bent.

This was very carefully worked out. Children whose humour was phlegmatic (cold and moist) were supposed to eat sanguine (hot and moist) food and drink. Growing older they became hotter (sanguine) and had to shift to cooler (phlegmatic) foods, and so on till death took its toll.

This philosophy represented a general belief that the physical characteristics of the things man ate were transferred to him. So it was thought that children and adults alike would take on the temperament and character of the animal or human being whose milk they drank. Since children were thought to prefer blondes, the milk of a blonde woman was considered more nutritious than the brunette's. Many a vegetarian movement got started because it was thought that animal passions are transferred to men through the meat they eat, and animal passions make philosophic or spiritual thought impossible.

Extra copies of the table of foods, published in a leaflet entitled "Eat the Right Foods," are available. If you would like to receive a free copy, write to Consumer Division, National Defense Advisory Commission, Washington, D. C.



CONSUMERS' BOOKSHELF

Publications of the Consumer Division, National Defense Advisory Commission, Washington, D. C.

REPORT OF DISCUSSION GROUP ON CONSUMER-BUYER PROBLEMS. Bulletin No. 1. August 2, 1940. Pp. 8, mimeo. Address: Consumer Division, National Defense Advisory Commission, Washington, D. C. Free. Summarizes the findings of the discussion group on consumer-buyer problems, which was organized as a part of the National Conference of Civic Organizations which met in Washington August 1–2, 1940, at the call of Commissioner Harriet Elliott. Suggestions for consumer action are given under the five following headings: (1) Securing factual information on goods and services; (2) Using this information effectively; (3) Developing and using standards for consumer goods; (4) Preventing unwarrented price increases; (5) Insuring that effects on consumers are duly considered in planning rearmament measures.

A SUGGESTED PROGRAM FOR STATE DEFENSE COUNCIL ACTION TO DEAL WITH POSSIBLE PRICE RISES OF ESSENTIAL CONSUMER COMMODITIES. Bulletin No. 2. October 14, 1940. Pp. 4, mimeo. Address: Consumer Division, National Defense Advisory Commission, Washington, D. C. Free. Lists certain kinds of problems on which local and State defense councils should take action. Suggests methods of planning and executing a program for dealing with price problems, and discusses the relation between local and national action in this field.

DIRECTORY OF GOVERNMENTAL CONSUMER SERVICES AND AGENCIES, by Leland J. Gordon. Bulletin No. 3. 1940. Pp. 29, mimeo. Address: Consumer Division, National Defense Advisory Commission, Washington, D. C. Free. A review of the existing municipal, State and Federal consumer services and agencies.

APPENDICES TO ACCOMPANY DIRECTORY OF GOVERNMENTAL CONSUMER SERVICES AND AGENCIES. 1940. Pp. 110. Address: Consumer Division, National Defense Advisory Commission, Washington, D. C. Free. These appendices give detailed information on the names, addresses and location of various local, State and Federal officials whose activities are reviewed in a general way in Bulletin No. 3.

LOCAL MARKET NEWS BROADCASTS FOR CONSUMERS. Bulletin No. 4, Nov. 20, 1940. Pp. 7, mimeo. Address: Consumer Division, National Defense Advisory Commission, Washington, D. C. Free. Describes briefly a number of market news broadcasts designed to provide consumers with helpful information on the supplies and prices of products available in local markets.

NUTRITION AND DEFENSE, by M. L. Wilson, Advisor on Nutrition to the Consumer Commissioner, National Defense Advisory Commission. Bulletin No. 5. Dec. 3, 1940. Pp. 9, mimeo. Address: Consumer Division, National Defense Advisory Commission, Washington, D. C. Free. This bulletin consists of an address given by Mr. Wilson before the annual meeting of the American Dietetic Association. Points out some of the differences between the present national nutrition situation and that of the first World War. Presents suggestions for action during the present emergency.

REPRESENTATION OF CONSUMER INTERESTS ON A STATE DEFENSE COUNCIL. Bulletin No. 6. December 20, 1940. Pp. 14, mimeo. Address: Consumer Division, National Defense Advisory Commission, Washington, D. C. Free. This bulletin consists of a report of the organization meeting of the Consumer Interests Committee of the New Jersey State Council of Defense, one of the first State consumers' committees to be set up. The relation of the State consumers' committee to the Consumer Division of the National Defense Advisory Commission is discussed.

MAINTENANCE OF FAIR RENTS DURING THE EMERGENCY. Bulletin No. 7. January 7, 1941. Pp. 12, mimeo. Address: Consumer Division, National Defense Advisory Commission, Washington, D. C. Free. This report was prepared by a special committee of the National Association of Housing Officials at the request of the Consumer Division. It is designed for the use of States and localities where the Defense program may create serious rent problems due to housing shortages.

STRENGTHENING THE MACHINERY FOR CONSUMER PROTECTION. Bulletin No. 8. January 29, 1941. Pp. 10, mimeo. Address: Consumer Division, National Defense Advisory Commission, Washington, D. C. Free. Contains a wide variety of suggestions for the use of the "Directory of Governmental Consumer Services and Agencies" Bulletin No. 3 by State and local defense councils, consumer organizations, and individual consumers.

CHECK YOUR WEIGHTS AND MEASURES. Bulletin No. 9. Feb. 17, 1941. Pp. 19, mimeo. Address: Consumer Division, National Defense Advisory Commission, Washington, D. C. Free. Gives suggestions for improving your community and State program of weights and measures protection. Contains a brief checklist of the provisions of the Model State Law on Weights and Measures.

EAT THE RIGHT FOOD TO KEEP YOU FIT, prepared by the Bureau of Home Economics with the cooperation of the Children's Bureau, Office of Education, and Public Health Service. 1941, pp. 6. Address: Consumer Division, National Defense Advisory Commission, Washington, D. C. Free. Gives brief suggestions for safeguarding your diet. Outlines activities for a community nutrition program.

Miscellaneous Consumer Bulletins

ECONOMIC ANALYSIS OF THE FOOD STAMP PLAN, by Norman L. Gold, A. C. Hoffman and Frederick V. Waugh, U. S. Department of Agriculture. 1940, pp. 98. Address: Superintendent of Documents, Washington, D. C. 20 cents. Discusses the objectives, theory and principles, scope, and methods of operation of the food stamp plan. Considers the public reaction to the plan and its effects on retailers, and on the dietary standards of low income consumers.

RURAL AMERICA LIGHTS UP, by Harry Slattery. 1940, pp. 142. Address: National Home Library Foundation, DuPont Circle Building, Washington, D. C. 25 cents. An historical review of the development of the electrical industry since 1910, describing the evolution of rural electrification and its relation to the economic security and well-being of the American farmer.

WOMEN'S DRESSES AND SLIPS—A BUYING GUIDE, by Clarice L. Scott, U. S. Bureau of Home Economics. Farmers' Bulletin No. 1851—supersedes Leaflet No. 105, "Quality Guides in Buying Ready-made Dresses." 1940, pp. 22, illus. Address: Superintendent of Documents, Washington, D. C. 5 cents. Discusses points to be considered in selection and purchase of women's dresses and slips, with special reference to fabric, size, fit, construction and workmanship.

TEN CLOSE-UPS OF CONSUMER CREDIT, by the Credit Union Section of the Farm Credit Administration. Circular 25. 1940, pp. 47. Address: Superintendent of Documents, Washington, D. C. 15 cents. This bulletin is made up of reprints of a series of articles which appeared in the CONSUMERS' GUIDE. Different types of credit are discussed from the consumers' viewpoint. This publication is included in the study kit which is listed as the next item.

YOUR MONEY AND MINE. A study-discussion packet on credit unions. 1940. Address: Credit Union Section, Farm Credit Administration, U. S. Department of Agriculture, Washington, D. C. Not available to individuals; will be sent only to leaders of study groups. This packet contains a 21 page study outline with suggestions for organizing and conducting a study group on credit unions. Also included is a collection of leaflets, pamphlets, reprints and charts on the purposes, and methods of organization and operation of Federal credit unions.

READ YOUR LABELS, by Helen Dallas and Maxine Enlow. Public Affairs Pamphlets No. 51. 1941, pp. 32, illus. Address: Public Affairs Committee, Inc., 30 Rockefeller Plaza, New York, N. Y. 10 cents. Discusses the history, need for, and protective features of the Food, Drug and Cosmetic Act of 1938. Also considers the regulatory activities of the Federal Trade Commission carried on under the authority of the Wheeler-Lea Amendment to the Federal Trade Commission Act.

A SELECTED BIBLIOGRAPHY ON THE USE OF ELECTRICITY IN THE HOME. 1940, pp. 37, mimeo. Address: Rural Electrification Administration, Washington, D. C. Free. Gives references to books, pamphlets and periodicals containing information on the care and repair of electrical equipment, heating and air conditioning, equipment for the kitchen, laundry equipment, plumbing and water systems, ranges, refrigerators, utensils, wiring and lighting, and miscellaneous small electrical equipment.

PRINCIPLES OF PLANNING SMALL HOUSES. Federal Housing Administration, Technical Bulletin No. 4. 1940, pp. 44, illus. Address: Superintendent of Documents, Washington, D. C. 10 cents. A discussion of the basic principles involved in planning a small house. Contains plans for a large number of varied types of homes, together with advice on selecting a site and heating and plumbing equipment.

PROCEEDINGS OF THE CONFERENCE ON CONSUMER CREDIT. 1940, pp. 92. Address: University of Washington, Seattle, Wash. $1.00. This report of a conference on consumer credit held at the University of Washington, November 13–14, 1940, contains the twenty-two addresses given at the various meetings. Among the subjects considered were the social and economic aspects of consumer credit, current developments with regard to various types of credit and the need for and effective regulation of credit.

CREDIT UNIONS—THE PEOPLE'S BANKS, by Maxwell S. Stewart. Public Affairs Pamphlet No. 50. 1940, pp. 31, illus. Address: Public Affairs Committee, Inc., 30 Rockefeller Plaza, New York, N. Y. 10 cents. Describes the history, growth, types, advantages, and methods of operation of credit unions, and their relation to other lending agencies. Bibliography.

THE MODEL STATE LAW ON WEIGHTS AND MEASURES. Letter Circular LC 620. 1940, pp. 46, mimeo. Address: National Bureau of Standards, Washington, D. C. Free. This model law was prepared by the National Conference on Weights and Measures and is recommended by the National Bureau of Standards. Although this law is suggested for enactment by States, it may be easily modified for adoption as a municipal ordinance.

ABSTRACTS OF THE LAWS PERTAINING TO COOPERATION IN THE UNITED STATES OF AMERICA, ITS POSSESSIONS AND TERRITORIES. Dr. Bernard Ostrolenk, Project Director, and V. J. Tereshtenko, Project Supervisor. 1940, pp. 350, mimeo. Address: Cooperative Project, Work Projects Administration, 625 Madison Avenue, New York, N. Y. Free. Abstracts laws of all the States dealing with various types of cooperative enterprise.

HOUSING BIBLIOGRAPHY, by Loeta Johns and Earline Scott. 1940, pp. 45, mimeo. Address: Institute for Consumer Education, Stephens College, Columbia, Mo. 15 cents. An annotated list of recent materials on housing and related problems. Included are books, pamphlets, magazine articles, newspaper items and reprints, periodicals, study outlines, films, plays, maps, radio programs and bibliographies.

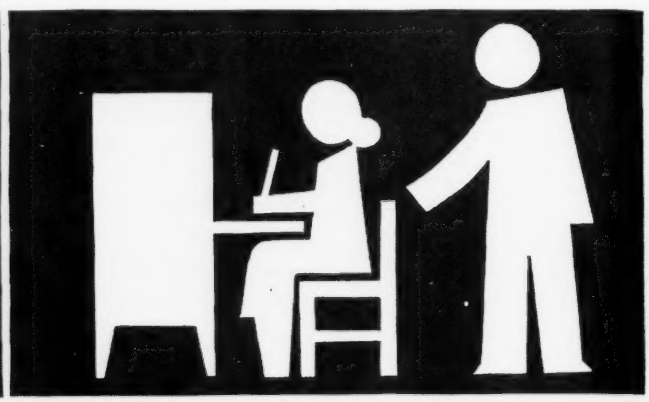
Please address your inquiries regarding any publication listed in "Consumers' Bookshelf" to the agency whose address is given under each title. Orders should not be sent to CONSUMERS' GUIDE or to the Consumers' Counsel Division.

Gardens Go to Town

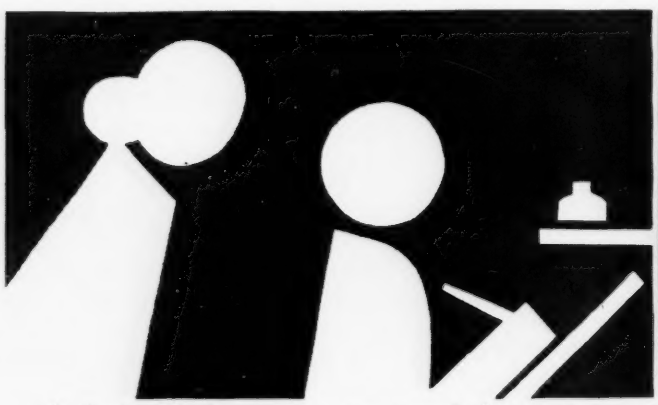
TURNING city lots, factory grounds, or other scraps of vacant land into garden spots to produce the city dweller's vegetable supply sounds like a good way of improving food habits, getting outdoor exercise, and making the food dollar yield more food. But prospective city farmers should cross-examine themselves carefully on the pro's and con's before digging too deeply into city lots.

1. It's fun to dream of a garden when the warm sun slants through your window on a fine spring morning. But any little bird can tell you it takes planning to make a garden grow. First off, figure the weekly cost of the vegetables it takes to make a well rounded diet. *"Diets to Fit the Family Income"** gives you a key to quantities recommended in a week's low cost diet for 4.

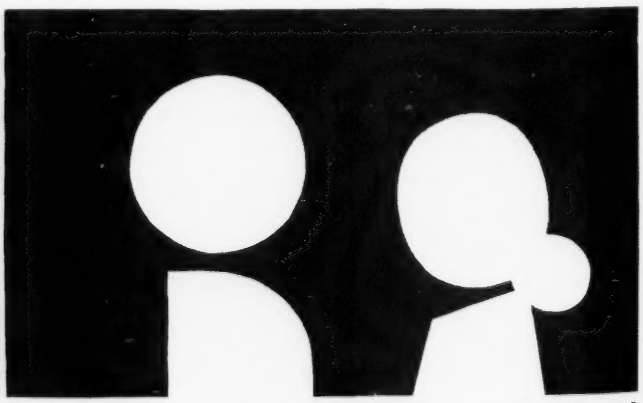
2. A minimum list would look something like this: 11 pounds of potatoes, 4 pounds of tomatoes (in place of oranges), 7 pounds of leafy green and yellow vegetables, 7 pounds of other vegetables or fruit. This year's prices are not always the same as last year's, but if you have been keeping an account book, last year's prices can be used as a guide in figuring what these will cost.



3. A garden that produces some or all of these vegetables sounds like a jolly thing to have, but don't just day dream about it. There are some costs to figure. Of course if you have no free land to start with, the cost of space may put an end to your garden dreams right off. Then comes the cost of seeds. You'll get a good steer on what you'll need from *"The City Home Garden."**



4. Seeds and plants may not cost much, but that's just a beginning. How about tools you'll need for preparing land and cultivating it? Then there's fertilizer to help insure a good crop. When your sprouts come up you may have to think about spraying equipment and insecticides. County Agents, Experiment Station Experts,* can help you estimate costs of these and other items.

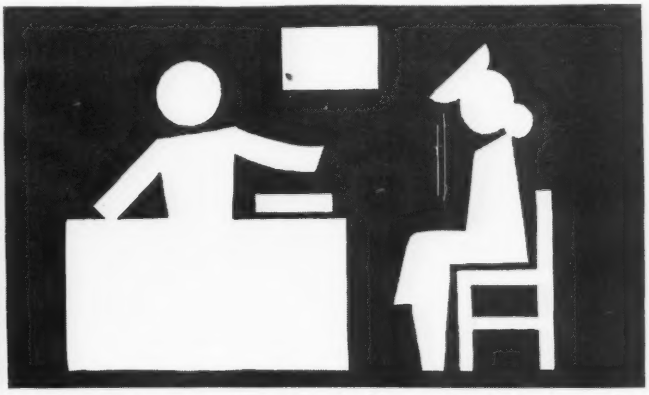


5. Now compare your total with the cost you estimated for the store-bought vegetables you would otherwise buy. (If your garden is beyond walking distance from home, don't forget to add in carfare.) Garden dreams don't have to come to an end just because store-bought vegetables come cheaper than home-grown ones. A lot more than vegetables can grow out of the family garden.

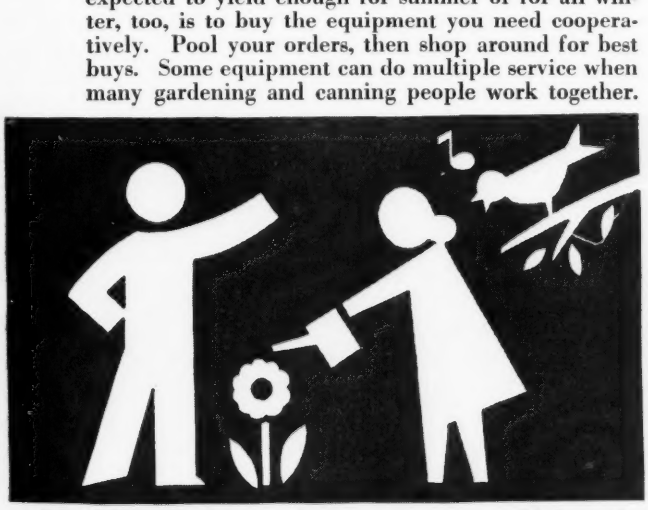
6. If you're a good gardener you can, with effort, be sure of fine quality vegetables. You'll probably like the extra flavor of their freshness, too. And if you have land and seeds and strength enough, you may be able to give your family a much bigger and better assortment of vegetables than you could buy. Too many families eat too few vegetables and fruits.

7. Home-grown vegetables don't all have to be eaten fresh. Some might be canned. If you're debating going in for canning, do some careful figuring on this, too, in advance. Successful canning means careful processing, space for storing. Of course, pressure cooker and fruit jar costs can be spread over years, if you are sure you're going to hold on to your present love of gardening.

8. If you're clubby with other garden enthusiasts, one way to cut the costs of gardens, whether they are expected to yield enough for summer or for all winter, too, is to buy the equipment you need cooperatively. Pool your orders, then shop around for best buys. Some equipment can do multiple service when many gardening and canning people work together.



9. At the end of all this, maybe you think that a garden is, after all, just something to dream about. But if a garden of your own or a cooperative one with your friends are beyond you, perhaps you can relieve that suppressed desire for a garden by getting your city government to organize and supervise community gardens for the benefit of low-income people in your city.



10. After all these explorations, you may think you're back where you started from, but actually you've traveled far because by now you have learned how to balance the cost of a garden against the pleasure it can give. If you've translated your dream of a garden for yourself into a city garden for less fortunate people, you've given a hand to better meals for them.

***FOR ANSWERS** to the question "How does your garden grow?" turn to these people: The County Agent and the Home Demonstration Agent for the U. S. Department of Agriculture. They're usually located at the county seat. And so are the county representatives for the Farm Security Administration. If you can't find them, write to the Extension Service and the Farm Security Administration Washington offices. They'll tell you where their nearest agents are. You'll also get help from these pamphlets: *Home Canning of Fruits, Vegetables, and Meats,* FB No. 1762, Superintendent of Documents, Washington, D. C., 5 cents; *Community Canning Centers,* Bureau of Home Economics, Washington, D. C., free; *Diets to Fit the Family Income,* FB No. 1757, Office of Information, U. S. Department of Agriculture, Washington, D. C., free; the *City Home Garden,* FB No. 1044, Office of Information, U. S. Department of Agriculture, Washington, D. C., free; *Subsistence Farm Gardens,* FB No 1746, Superintendent of Documents, Washington, D. C., 10 cents.

14 Milk Glossary for Consumers

PART VIII

Eighth installment of the language used by people who try to solve milk problems of producers and consumers*

L

LACTIC ACID. The acid in sour milk. Lactic acid is used in tanning, and as the basic material in the manufacture of some plastics.

When milk sours some of the bacteria, acting on the lactose (milk sugar), produce lactic acid. The lactic acid in turn precipitates the protein in milk (mostly the casein) and thus produces the curd or clabber that gathers in the bottom of a bottle of sour milk. The lactic acid, itself, is dissolved in the whey or watery part of the milk.

At the present time scientists in the Bureau of Dairy Industry are working on methods designed to make the wider use of whey as a source of lactic acid practicable for industry. (See also Waste).

LACTOSE. Milk sugar. Lactose is sugar that is found in the milk of all mammals, with the possible exception of the whale, and so far as is known, is not found anywhere else. More of it, about 6.94 percent by weight, is found in human milk, than in cow's milk (4.94 percent), and for this reason it is very often added to cow's milk for infant feeding.

Because it does occur in milk, and no place else, most people assume that it is a very valuable nutrient. Just why it is valuable hasn't been determined precisely yet. It is known that it retards the growth of harmful bacteria in the intestines, that it is more effective than other sugars in stimulating the growth of young animals, and that when taken in considerable quantities by adults it is less fattening than other sugars. It also has certain laxative and diuretic effects.

Commercially it is used by confectioners, by pharmacists in drugs, and by the manufacturers of certain liqueurs because when it crystallizes it produces a frosty effect on the inside of bottles.

Half the lactose produced by America's 25 million cows each year is either wasted or fed to animals in skim milk. The U. S. Bureau of Dairy Industry is working now on the problem of finding ways to turn billions of pounds of milk nutrients which fail to reach consumers into saleable products for human consumption.

LAWS. Legislation dealing with milk and milk products is concerned primarily with standards of purity and quality or identity, and with methods of marketing.

State and Federal laws may be concerned with all 3 problems, while city laws usually pretend at least to deal only with the control of milk from a health standpoint.

For a discussion of marketing laws dealing with milk, see Control Board; Agreement, Marketing.

Milk and milk products which enter interstate commerce are subject to the provisions of the Federal Food, Drug and Cosmetic Act of 1938. This law forbids the misbranding and adulteration of foods which enter interstate commerce. Relatively little fluid milk is sold in interstate commerce, and city milk ordinances usually control the sanitation and adulteration of that. On the other hand, large quantities of milk products, such as butter and cheese, are sold from one State to another, and the Food and Drug Administration keeps an eagle eye open for adulteration and misbranding of these products.

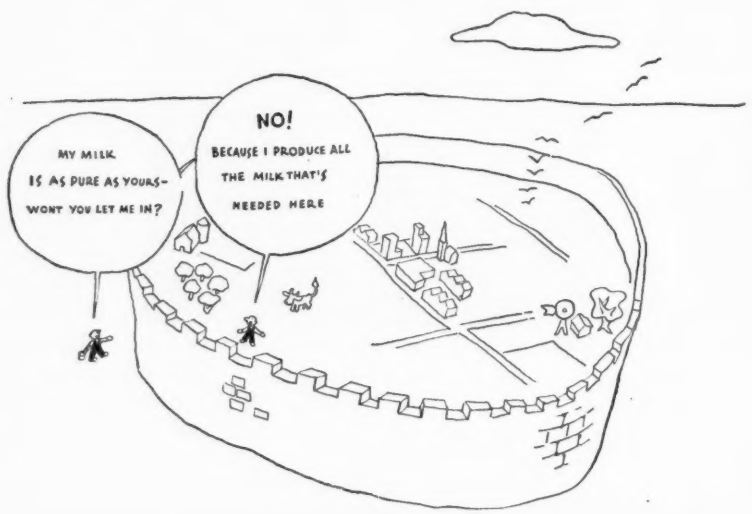
The same Act also provides for the establishment of standards of fill of containers for foods, minimum standards of quality, and standards of identity. Since the passage of this act, standards of identity have been set for cream, evaporated milk, dry skim milk, condensed milk, and for certain varieties of cheese. It is likely that similar standards will be established in the future for other milk products.

Another Federal law establishes a standard of identity for butter. (See Butter).

State laws which deal with the purity of milk and milk products usually prescribe minimum milk fat content and maximum bacteria count. In the case of some milk products, these laws sometimes also prescribe the milk-solids-not-fat content. They may also prohibit the use of preservatives, and lay down sanitary requirements in the production, processing and distribution of the product.

Detailed sanitary requirements governing the production, processing, and distribution of milk, together with provisions for supervising these activities, are usually contained in city laws known as milk ordinances.

Milk ordinances vary greatly from city to city, except for those cities which have adopted the United States Public Health Service Standard Milk Ordinance. (See Standard Milk Ordinance.) While these city ordinances are intended primarily to protect health, they are sometimes used to set up Chinese walls around a "milk shed" which includes a city and a farming area immediately around it, and to restrict competition to milk produced within the walls. Such a policy, of course, is defensible neither from the standpoint of the consumer within the wall nor from the standpoint of milk producers outside. Adoption, enforcement, and acceptance of the Standard Milk Ordinance is one way to remove such trade barriers which stand in the way of the economic utilization of milk.



*Earlier installments appeared in CONSUMERS' GUIDE *August, October 1, October 15, November 1, December 2, and December 15, 1940, and January 16, 1941 issues.*

M

MALTED MILK. A milk food made by combining whole milk with a liquid obtained by cooking barley malt and wheat in water. The final product, a powder, is obtained by evaporating the water. Under an unofficial definition issued by the Federal Food and Drug Administration, malted milk should contain at least 7.5 percent of milk fat by weight and not more than 3.5 percent water.

Combined further with cocoa or chocolate this preparation is sold for use in making so-called chocolate malted milk beverages.

Products that are not malted milk, but which are often confused with malted milk, are made of skim milk (instead of whole milk), cocoa or chocolate, and malt. These products are usually sold under brand names which contain some combination of the words chocolate, cocoa, and malt.

Under the Federal Food, Drug and Cosmetic Act, which applies to all food products entering interstate commerce, the Administrator of the Federal Security Agency may issue standards of identity defining the kinds and amounts of ingredients in these products. Until such standards of identity are issued, the law requires the labels on these products to list their ingredients.

Composition of the various malted milk preparations on the market varies. A more or less typical malted milk preparation, however, contains about 3 percent water, about 13 percent protein, about 7.5 percent fat, about 3 percent of minerals, a small amount of fiber, and about 73.5 percent sugar.

A good food with a distinctive taste that is pleasing to many people, malted milk, however, is a food and not a drug, that is, it won't cure insomnia, or chilblains, or rickets, or what-not.

MARKET ADMINISTRATOR. (See Agreement, Marketing.)

MARKETING AGREEMENT. (See Agreement, Marketing.)

MARKET ORDER. (See Agreement, Marketing.)

MINERALS. Calcium, phosphorus, and iron are the 3 most important of the many minerals human beings need in their diets for health and growth. Milk is a most valuable source of calcium and phosphorus. It contains only a small amount of iron and is therefore not a good source for this mineral, though what little it does contain is readily available to the body.

Calcium, the most important component of bones and teeth, is not obtainable from most foods, a fact which gives milk one of its great nutritive values.

Phosphorus, which is also plentiful in milk, is an important element, not only of bones and teeth, but also of every living tissue, muscles, nerves and cells.

Since an unborn child begins to require calcium and phosphorus about 7 months before it is born, a quart of milk daily is a prime necessity in the diet of pregnant women. Milk incidentally is important not only for the child but also for the mother. The commonly held belief that a mother must lose her teeth with her first child derives from the fact that expectant mothers who fail to get sufficient calcium and phosphorus do suffer tooth deterioration. Growing children, too, need a quart of milk a day to permit bone and tooth development.

Adults suffer from cavities and tooth decay if their diets lack calcium and phosphorus.

O

ORDINANCE. (See Law).

P

PASTEURIZATION. A method by which fluids may be partially sterilized by heating them. Discovered by the French scientist, Louis Pasteur, during a search for a way to keep wine from souring, pasteurization is now regarded as the only practical method by which milk may be made completely safe to drink.

Pasteurization differs from sterilization in that it does not destroy all the bacteria in milk. Pasteurization kills the disease-bearing, pathogenic bacteria. The useful lactic acid bacteria, the varieties that attack pathogenic bacteria in the stomach, survive pasteurization because they can stand higher temperatures than the others. Thus, milk pasteurized at proper temperatures is rid of the harmful bacteria while it retains the good bacteria.

There are 2 systems of pasteurization which are used most often: the holding system, and the flash system. Under the holding system, the method required in cities where the United States Public Health Service Standard Milk Ordinance is in effect, milk is heated to a temperature of 143 degrees Fahrenheit and held at that temperature for 30 minutes.

When milk is pasteurized by the flash system, it is heated to a temperature above 160 degrees Fahrenheit, kept at that temperature for a few seconds and then cooled quickly.

Where milk is not pasteurized, health experts recommend that it be boiled before use or made safe by one of 3 ways:

(1) Boil the milk in a pan directly over the fire for 3 minutes while stirring constantly, and then cool immediately by placing the kettle in cold water, and then in the refrigerator.

(2) Place the milk in a double boiler and let it cook while the water in the lower pan boils for 8 minutes. Then cool quickly.

(3) Punch a hole in the top of the milk bottle cap after pouring out a little milk. Then insert a thermometer and heat the milk in a pan of hot water until the temperature reaches 143 degrees. Keep the milk at this temperature for a half hour. Then cool slowly and put the milk in a refrigerator.

These treatments not only eliminate the danger of milk diseases but delay souring of the milk.

Lingering around the country, strangely enough, is a prejudice against pasteurized milk. This takes 2 forms. Some people hold that (1) pasteurized milk is not as nutritious as raw milk, and (2) that it doesn't taste as good.

As for prejudice No. 2, most consumers can settle that for themselves: Conduct a taste test. Serve friends equivalent grades of raw and properly pasteurized milk. Ask them to identify the raw and the pasteurized milk.

Prejudice No. 1 is equally false. In a recent scientific test, research workers fed pasteurized milk to one group of calves and raw milk to another set. They came to the conclusion that raw milk possessed no particular nutritional advantage over pasteurized milk. It did have one important disadvantage. Calves fed raw milk were more likely to develop tuberculosis.

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